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Kari Santoro Beer and Lori S. Waddell
electrolyte alterations are common in critically ill surgical patients, and can lead to alterations in cardiovascular function, neurologic status, respiratory function, and even response to various drug therapies. Several common perioperative conditions are discussed in this article, including metabolic disturbances, electrolyte abnormalities (hyponatremia and hypernatremia, hyperkalemia), and respiratory abnormalities.

Perioperative Monitoring of Heart Rate and Rhythm
Mark A. Oyama

Perioperative disorders of heart rate and rhythm are common and can contribute to patient morbidity and mortality. Management of perioperative arrhythmias is facilitated by understanding the basic mechanisms of arrhythmia formation and the role of transient imbalances. The decisions of when and how to treat perioperative arrhythmias are based on whether or not hemodynamic signs are present and the assumed risk of sudden arrhythmic death. Perioperative arrhythmias warrant careful monitoring and consideration of potential complications associated with antiarrhythmic therapy.

Perioperative Blood Pressure Control and Management
Tanya Duke-Novakovski and Anthony Carr

Blood pressure monitoring and management is a vital part of the perianesthetic period. Disturbances in blood pressure, especially hypotension, can have significant impacts on the well-being of small animal patients. There are a variety of mechanisms present to control blood pressure, including ultra-short-, short-, and long-term-mechanisms. Several conditions can contribute to decreased blood pressure, including anesthetics, tension pneumothorax, intermittent positive pressure ventilation, hypoxemia, hypercapnia, surgical positioning, and abdominal distension. If hypotension is encountered, the initial response is to provide appropriate fluid therapy. If this is inadequate, other interventions can be used to increase blood pressure and thereby increase perfusion.

Inadvertent Perianesthetic Hypothermia in Small Animal Patients
Stuart Clark-Price

Inadvertent perianesthetic hypothermia is one of the most common complications in anesthesia of dogs and cats. Hypothermia during anesthesia can lead to altered pharmacokinetics of anesthetic and analgesic drugs, dysfunction of organ systems, increased patient susceptibility to infection, reduced wound healing, altered coagulation, hypotension, and delayed recovery. An understanding of the pathophysiology, complications, and techniques to minimize hypothermia during anesthesia can help veterinarians optimize care of patients. This article provides an overview of inadvertent perianesthetic hypothermia.
Postoperative Hemostasis Monitoring and Management
Lisa J. Bazzle and Benjamin M. Brainard

Although postoperative hemorrhage is an understood sequela, surgery also elicits an inflammatory response that may result in a hypercoagulable state and risk for venous or arterial thromboembolism. Postoperative venous thromboembolism is well documented in humans and is multifactorial in nature; however, evidence for its presence in veterinary medicine remains sparse. There is no consensus on the ideal type, dose, and duration of thromboprophylactic therapy in the perioperative period. Regardless, coagulation perturbations secondary to surgical stress are important considerations for the perioperative patient to reduce the possible fatal risks of hemorrhage or thrombosis.

Analgesia in the Perioperative Period
Stephanie H. Berry

Untreated or undermanaged perioperative pain has systemic effects that may negatively impact a patient’s welfare and return to function. A consistent analgesic plan that assesses a patient’s pain and comfort at regular intervals during the perioperative period should be incorporated into practice. Validated pain assessment tools are available for use in dogs and cats. Multimodal analgesic plans should be created for individual patients and modified according to pain assessments. These plans, based on a thorough history, physical examination, and knowledge of the expected pain, should be combinations of an opioid, a nonsteroidal anti-inflammatory drug, a local anesthetic, and nonpharmacologic analgesic techniques.

Nursing Care: Care of the Perioperative Patient
Harold Davis

This article provides a general overview of nursing care principles including an approach to developing a nursing care plan using the nursing process as its foundation. The nursing process is a problem-solving approach used in planning patient care. This article also focuses on nursing care as it pertains to the respiratory, cardiovascular, and renal systems (fluid balance) as well as care of the recumbent patient. Knowledge of nursing care techniques and risk factors for complications puts the care provider in a position of being proactive rather than reactive to patient care needs.

Wound Care
Ingrid M. Balsa and William T.N. Culp

Wound care requires an understanding of normal wound healing, causes of delays of wound healing, and the management of wounds. Every wound must be treated as an individual with regard to cause, chronicity, location, and level of microbial contamination, as well as patient factors that affect wound healing. Knowledge of wound care products available and when negative pressure wound therapy and drain placement is appropriate can improve outcomes with wound healing. Inappropriate product use
can cause delays in healing. As a wound healing progresses, management of a wound and the bandage material used must evolve.

Peri-Surgical Nutrition: Perspectives and Perceptions

Christopher W. Frye, April E. Blong, and Joseph J. Wakshlag

Peri-surgical nutrition of veterinary patients is in its infancy, with considerable research to be performed to help improve quality of life in our small animal patients. Clues from human immunonutrition may be starting places for investigation. Considerations for future investigations should include essential nutrients, the underlying disease process, therapeutic goals, and species (dog or cat). There are guidelines for caloric requirements. Planning for nutritional support before surgery takes place is likely to be beneficial to patient outcomes. Taking into account case history, method of feeding, metabolic abnormalities, and possible immunonutrition should be part of a complete surgical nutritional plan.